

NIGMS Genetic Centers: Intention, Prerequisites and Guidelines

INTENTION: The NIGMS has encouraged the establishment of genetic centers to foster and facilitate broadly based research which is likely to contribute in a significant way to the advance of genetic knowledge applicable to the solution of human problems. The centers are conceived as supporting or creating facilities to accomplish work that would not otherwise be possible and as translating advances in genetics into application. Similarly it is conceived that new ideas and progress will be engendered by familiarization of basic scientists with specific human genetic problems. The concept includes basic laboratory investigation and clinical genetics support as each relates to the overall goals.

Because of some necessary vagueness in the definition of a center, as contrasted to a program-project, it has seemed desirable to list certain characteristics which NIGMS seeks in reviewing applications for center grants. It is certainly not necessary that all of these attributes be present in any particular center, but it is expected that many will be strongly represented. It should be emphasized, however, that our own ideas about centers are malleable and are largely conditioned by the applicants themselves as they present novel viewpoints to us.

PREREQUISITES: (1) A center is normally multidisciplinary and multidepartmental, but it must represent a scientific focus. There should be one cluster of objectives which can be defined and to which answers are being sought. Therefore, a center should effect an amalgamation of investigators capable of high quality investigative work in diverse disciplines with functional as well as conceptual interdependence in a research effort directed toward acquisition and application of genetic information. There should be clear evidence of collaborative effort,

both intradepartmental and interdepartmental and a means of implementing interactive cooperation. If elements of the center are physically separate, the means by which the center will function as an integral unit should be detailed. (2) Since several departments, both basic and clinical, generally will be involved, there must be a center director of sufficient stature to be a recognized and effective leader, supported by an appropriate administrative structure, appointed and given the responsibility and appropriate authority to administer the program. The administrative structure needs to be clearly delineated. The director may operate with advice of a scientific advisory committee but responsibility of the program by a committee is not desirable. In the same vein, the Institute will not consider the funding of applications in which the director is clearly to act as an agent for a collection of scientifically or administratively autonomous and noninteracting efforts. (3) Since several departments will be involved, a convincing expression of enthusiasm for the center is expected from the higher levels of administration, such as the offices of the Dean or the President of the applying institution. (4) The center grant concept is intended, in part, to facilitate increased interactions between clinical and more basic investigations. Accordingly, it is generally expected that both of these elements are represented to an adequate degree (as judged by our reviewing bodies) within a center.

GUIDELINES: Since the investigators involved in most proposed centers will be individuals of recognized competence, many will have grant support which has already been reviewed by their peers. Retention of these grants does not preclude participation in the center program. These investigators may request additional funds for the initiation of new projects. Applicants should not use

the center grant as a means of supplementing projects already reviewed and funded by other mechanisms.

Because centers in genetics will often have a rather complex support structure, it is important that overall support be clearly delineated. The application must contain a clear and detailed outline of all current outside support, in direct costs per year, and include the period and amounts of future committed support, for all of the investigators comprising the proposed center. It should be clearly stated whether competing continuation support for specific projects will be sought, or whether their future support is to be through center funds. A separate section should detail applications contemplated or under review, but not currently funded. When a center is funded, such information must be in applications for non-competing continuation support annually.

New or proposed work should be clearly delineated from background information and ongoing work. The budgets should be clearly prepared for each project in order that the specific funding requests can be reviewed. Each proposal and request will be reviewed on its merit and justification for funding in the context of scientific merit, relation to the total grant proposal, and justification of the requested items. The currently approved and funded projects for which support is not being requested do not require the detailed documentation of new proposed projects. Requests for funds for salary for investigators already funded from other sources is appropriate only if explicitly justified in terms of the research goals and evidence of valid reasons for the proposed transfer. The support for the center could include:

A. Funds for administrative support for the participating members of the group.

For a center to continue to cohere requires a high level of scientific

leadership. Experience has taught that a center may degenerate into an assembly of isolated research projects in the absence of such leadership. Such a deterioration will be an indication for discontinuance of center grant support.

- B. Salary support and facilities for young promising investigators and/or for the acquisition of an established investigator which compliments the research efforts of the research group.
- C. Funds for research associates.
- D. Resources to facilitate new projects.
- E. Funds to establish and operate facilities which are of essential research importance to the group effort. Such joint facilities need to be justified in terms of utility to several research projects within the center and the new lines of investigation which will be generated by such a resource.
- F. Whereas training stipends will not be a portion of the budget of a center, it is confidently expected that most centers will greatly strengthen the training opportunities in the involved departments. The prospect of multidepartmental training will be regarded with favor.

Alternatively the group may elect to incorporate the bulk of the research support under the aegis of the Center grant. It would be the responsibility of the DRG committee to review each proposal for its scientific merit and relation to the total program. The elements facilitating the Center program outlined above would also be applicable to grants funded by this mechanism.

Experience has indicated that the budget for a center is likely to grow over the first several years of operation as staff and facilities are assembled. However, the hard facts of life preclude growth without limits. Once a center has achieved reasonable size, any further growth will have to be defended on the grounds of special scientific merit review. The definition of reasonable size will rest, of course, with our reviewing bodies.

The preparation of a Center Grant application is a highly complex undertaking. All applicants are strongly advised to discuss the preparation of an application during the early planning stages with the staff of the National Institute of General Medical Sciences. In addition, it is to the applicant's advantage to submit a draft proposal for informal institute evaluation and possible modification well in advance of the deadline for formal submission to the Division of Research Grants, NIH. This procedure will often prevent unnecessary delays, or difficulties in the review process, due to avoidable inadequacies in the application.

Please contact Dr. Fred H. Bergmann (AC 301-496-7087) for additional information.